



# THE GLAST GUEST INVESTIGATOR PROGRAM

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### Abstract

We provide an overview of the GLAST Guest Investigator (GI) program. The GI program will support basic research relevant to the GLAST mission. The first of the annual cycles will begin approximately two months after launch. During the first cycle the LAT instrument team will release lightcurves and spectra of ~20 monitored sources and transient sources; the GBM data will also be released. In this cycle GIs may propose analysis of released data, support for correlative multiwavelength observations, development of analysis techniques applicable to the GLAST data, and theoretical studies relevant to GLAST. Scientists may submit regular proposals, with a one year research program, and Large proposals, with a more expansive research program requiring up to three years. Further details about the GLAST GI program may be found at <http://glast.gsfc.nasa.gov/ssc/proposals/>.

### Mission Phases

- Phase 1— ~60 days after launch. Instruments turned on and checked out.
- Phase 2—1 year. Sky survey during the first year of science operations. LAT summary data (not count data) released.
- Phase 3—science operations after first year. Investigators may request pointed observations, although the observatory will probably scan the sky continuously because of the LAT's large field-of-view. All science data will be public.

### Two Proposal Classes

- Regular proposals—research plans that can be completed in one year
- Large proposals—research plans that are more expansive and may take up to three years to complete. The number of large projects funded, and corresponding budgets awarded in any given year, will be limited. Large projects will be reviewed each year to determine if appropriate progress is being made. PIs of approved large projects must submit a annual progress report.

### Proposal Preparation Tools

- To assist scientists prepare GI proposals, the GSSC will provide the following:
- Source detectability calculator—a web-based tool that calculates the significance of a LAT point source observation with a specified intensity in a given exposure time.
  - GLASTspec—a GLAST version of WebSpec, a web-based tool that runs XSPEC's *fakeit* command. Users will be able to simulate both GBM and LAT spectra for appropriate spectral models.
  - Auxiliary tools such as converter between different time formats and source name resolver.
  - A technical handbook (posted on GSSC website)
  - General information on GSSC website ([glast.gsfc.nasa.gov/ssc](http://glast.gsfc.nasa.gov/ssc))

### GLAST Data Policy

- During the first year of the mission, all LAT event data are proprietary to the LAT instrument team and the Interdisciplinary scientists.
- Spectra and lightcurves of detected transients and ~20 selected sources (the list is posted on the GSSC website) will be made public as soon as possible.
- GBM science data will be released from the beginning of science operations.
- A month after the end of the first year, the LAT event data will become publicly available. Starting the second year, all subsequent science data acquired by the spacecraft will be in the public domain immediately without a proprietary data period.
- Full details on the GLAST Data Policy can be found on the GSSC website.

### Tentative Schedule (Approximate Dates)

|   |                |
|---|----------------|
| Cycle 1 NRA in ROSES 2007 release       | February, 2007 |
| Proposal aids posted on GSSC website    | March, 2007    |
| Notice of Intent due (optional)         | April, 2007    |
| Cycle 1 stage 1 (science) proposals due | June 15, 2007  |
| Results of stage 1 released             | October, 2007  |
| *** Launch ***                          |                |
| Cycle 1 stage 2 (funding) proposals due | November, 2007 |
| Cycle 1 funding decisions released      | November, 2007 |
| Cycle 1 begins                          | December, 2007 |
| Cycle 2 NRA in ROSES 2008 release       | January, 2008  |
| Proposal aids posted on GSSC website    | April, 2008    |
| Cycle 2 stage 1 (science) proposals due | July, 2008     |

In future cycles users can use the simulation tools in the Science Analysis Environment (SAE), the set of tools that will be provided to analyze GLAST data. A spatial-spectral source model can be folded through the LAT instrument response functions to simulate an observation. The simulated data can then be analyzed with the SAE tools. Because during the first cycle LAT count data will not be released and GIs cannot propose observations, the relevant SAE tools will not be available for the first round of proposals.

### Guest Investigator Program Basics

- The GLAST mission will support a Guest Investigator (GI) program that the GLAST Science Support Center (GSSC) will administer for NASA Headquarters.
- The Cycle 1 program will be announced in NASA's Research Opportunities in Space and Earth Science (ROSES) for 2007.
- The tentative plan is for funding ~50 Cycle 1 proposals at the ~\$50-100K level.
- The GI program will include a GLAST Fellows program with a schedule similar to the Hubble and Chandra Fellows programs.
- In Cycle 1 GIs may not propose GLAST observations and will not have access to LAT event data until they are released at the beginning of the 2nd cycle (2nd year).
- During this first year the LAT team will post spectra and lightcurves for bright transients and ~20 selected sources (the list is posted on the GSSC website).
- GIs may request funding for
  - Multi-wavelength observations
  - Analysis of released data
  - Development of new analysis methods relevant to GLAST
  - GLAST-related theoretical research
- During subsequent yearly cycles:
  - ~100 proposals funded (tentative)
  - GIs may also request pointed observations or special instrument modes as part of their proposal, if scientifically justifiable. However, continued surveying of the sky will probably be the most efficient method of accumulating exposure for the largest number of sources.
  - All data will be available to the public from the GSSC's website.
- PIs at institutions outside the US may submit proposals, but cannot be funded by NASA (positive evaluations may be useful for obtaining funding from non-US funding agencies). US Co-Is of proposals submitted by foreign PIs may be funded commensurate with their level of effort.
- More information available from GSSC website: <http://glast.gsfc.nasa.gov/ssc/>
- Assistance available from GSSC helpdesk: <http://glast.gsfc.nasa.gov/ssc/help/>

### Proposal Submission Procedure

- A two stage proposal process will be used:
- First, proposers will submit their science proposals. This proposal will be evaluated by peer panels.
  - Second, those GIs whose scientific proposals are tentatively selected will then submit the proposal's funding portion.
- Proposers will submit the maximum funding request (a single number) with the science proposals, but will submit a detailed budget ONLY if the science proposal has been tentatively accepted.
- Step-by-step procedure (detailed instructions in ROSES and will be posted on GSSC website):
- Register with the Astrophysics Knowledge Base for Analysis and Reporting (AKBAR) system through <http://heasarc.nasa.gov/akbar/join/>. Join the 'GLAST Guest Investigator RPS (GLAST)' group. Also join 'GLAST Target of Opportunity RPS (GLASTTOO)' group (used to submit Target of Opportunity observation requests). AKBAR now hosts the Remote Proposal System (RPS).
  - Register with the NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES) at <http://nspires.nasaprs.com/external/aboutRegistration.do>. Note that your institution must also be registered with NSPIRES.
  - (Optional) Submit a Notice of Intent to propose
  - Prepare your science proposal (4 pages)
  - Submit the science proposal through RPS
    - Log into AKBAR (<http://heasarc.nasa.gov/akbar/>)
    - Select the GLAST Guest Investigator RPS group
    - Select 'New Proposal'
    - Fill in form
    - Include maximum funding amount (single number)
    - Upload PDF file with science proposal
  - Wait for results of peer review of science proposal
  - If your science proposal has been tentatively accepted, submit detailed budget through NSPIRES.
- Assistance available from GSSC helpdesk: <http://glast.gsfc.nasa.gov/ssc/help/>

### Additional Information at Symposium

- See the posters:
- P19.18 - Horner, Donald J.—The GLAST science support center
  - P19.34 - Stephens, Thomas E.—Serving data to the GLAST users community
- Visit the GSSC table for:
- Handouts on GLAST, the GI program, and the sources the LAT team will monitor
  - Demonstrations of the RPS forms (proposal submission) and proposal preparation tools
  - Discussions with GSSC staff

### GSSC Website:

<http://glast.gsfc.nasa.gov/ssc/>

### Submit questions to:

<http://glast.gsfc.nasa.gov/ssc/help/>